



INSTRUCTION TO SERVICE

ITS: 6180

SECTION:	420 Body Appearance Exterior
WRITTEN BY:	Dwayne Peters
SUBJECT:	Remove and install roof hatch

ITS6180

Draft

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PROCEDURE:

1. Turn the main battery disconnect switch to the “OFF” position.
2. From inside the bus, locate the leaking roof hatch.

☞ **NOTE:** Take note of the orientation of the hatch so that it will be put back in the same position later.

3. Remove the roof hatch as followed;
 - a. From the inside of the bus, open the roof hatch to the vent position.
 - b. Remove and discard the eight screws from the interior ring of the roof hatch and remove the interior ring from the ceiling. Set it aside for re-installation later. Figure 1.

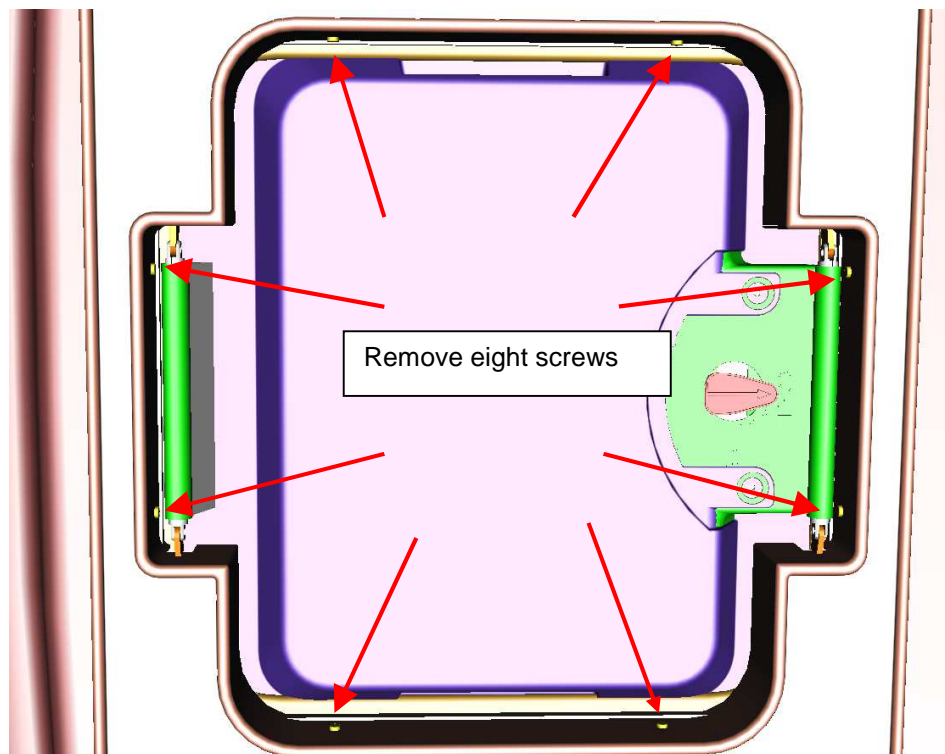


Figure 1: Remove Interior Ring Screws

⚠ WARNING: When working on the rooftop systems of the bus, be sure to use a safety tether and harness. If overhead tether system is not available, then follow your own facility’s safety procedure for working on vehicle rooftops.

- c. On the outside roof of the bus, locate the leaking roof hatch.
- d. Remove and discard the twenty screws holding the hatch in place. Figure 2.
- e. Cut the Sika sealant around the entire roof hatch so that the hatch can be removed from the bus. Figure 2.

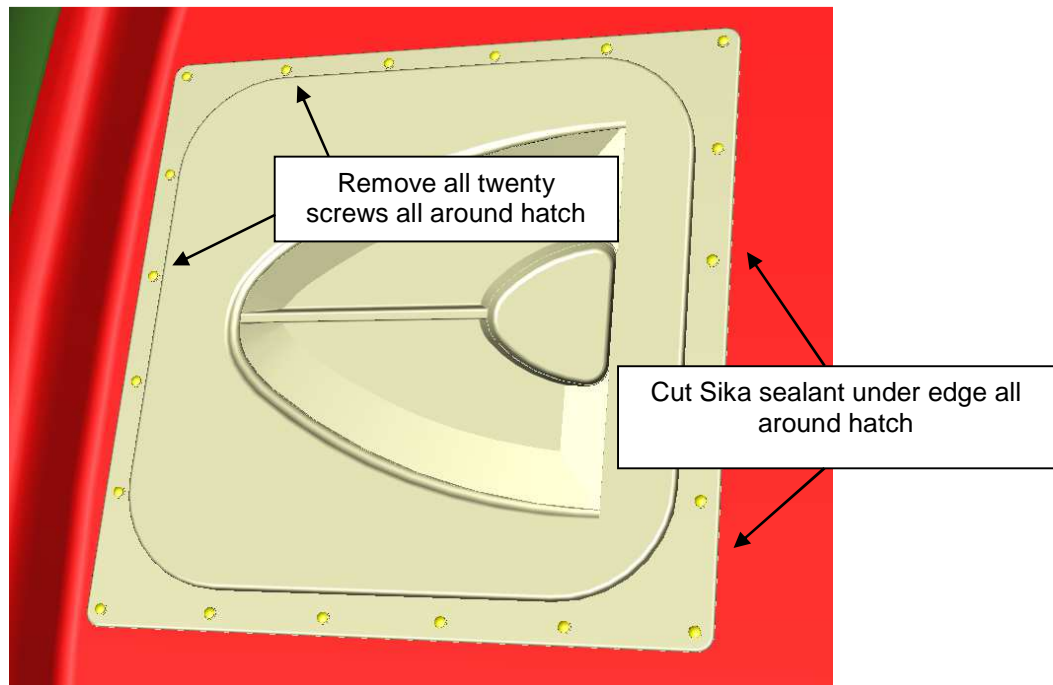


Figure 2: Remove Screws and Cut Sika Sealant

- f. Carefully lift up on the roof hatch to loosen it and remove it from the bus.
 - g. Clean up all the existing Sika sealant and foam tape off the roof of the bus.
 - h. Use Sika cleaner (NF PN 055702) and a soft, lint free cloth to clean the new hatch frame and roof mating areas.
4. Disassemble the roof hatch from the old frame as followed;
- a. Place the hatch assembly upside down on a flat surface and lift frame to the vented position as shown in figure 3 to gain access to the (4) 5/16" shoulder screws fastening the plunger assemblies to the frame. Use a T30 Torx to remove these and set them aside.

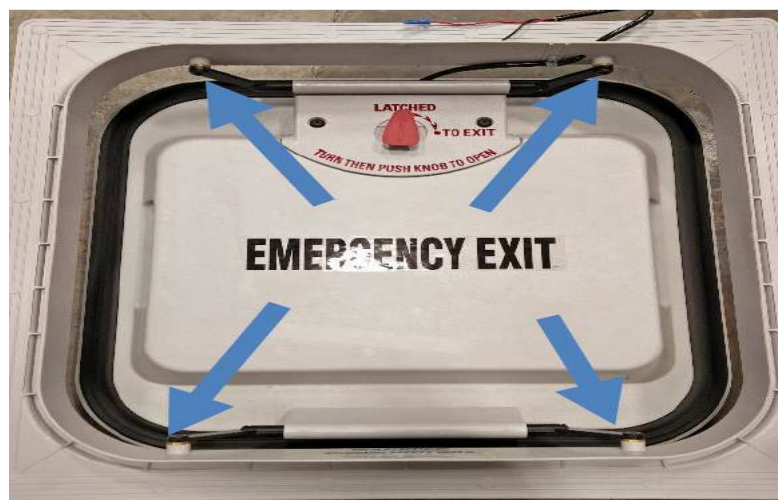



Figure 3: Remove (4) screws

 **NOTE:** Plungers are spring loaded Use caution when removing the shoulder screws.

- b. Verify that the new replacement frame is the same curvature as the original as shown in figure 4. There's a small number indicator on the bottom of the frame.

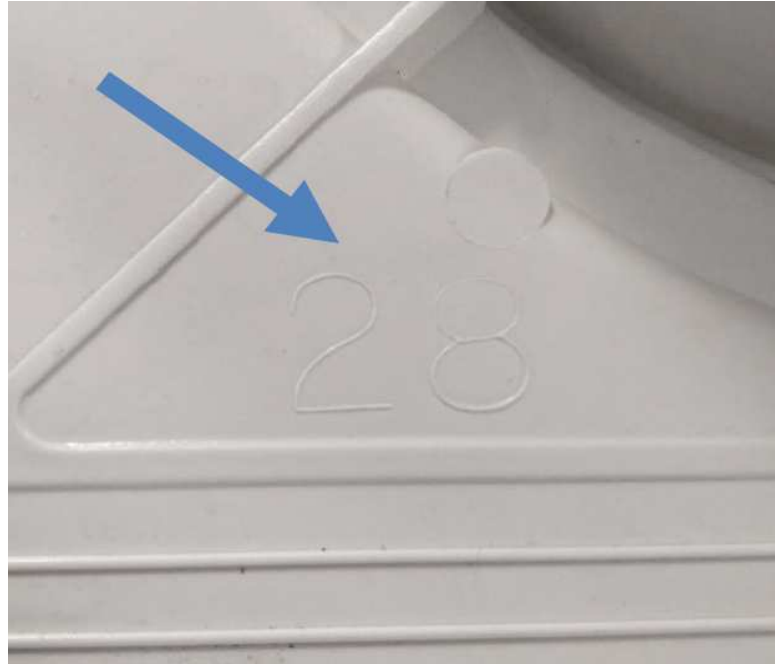


Figure 4: Curvature number for reference

5. Reassemble as followed;
 - a. Lay the new frame overtop the lid as shown in figure 5.



Figure 5: New frame installed

- b. The plungers and screws may now be installed. Verify that all four springs are installed as shown in figure 6. Hand thread the screws a few threads. This may require added pressure to the plungers to compress the springs.



Figure 6: Four springs installed (one side shown)

- c. It is recommended to shift the plungers to the shoulder of the screw prior to tightening the screws. Torque the (4) screws to 65-75 in-lbs. Figure 7.



Figure 7: Shoulder screws

6. Install the new roof hatch as followed;
 - a. Once the hatch has been cleaned and is dry; apply the foam tape (NF PN 5962588) 1.25 " from the edge of the hatch all the way around. Figure 8.



Apply foam tape 1.25" from outer edge of hatch

Figure 8: Foam Tape Location

- b. Apply a dab of white Sika sealant (NF PN 055701) on all twenty screw holes. Figure 9.



Figure 9: Seal the Screw Holes

- c. Apply a continuous bead of white Sika sealant along the outside edge of the screw holes on the roof making sure there is no gap in the sealant where it joins. Figure 10.



Figure 10: Apply Sika Sealant

- d. Apply a bead of white sika to the bottom of the hatch frame, outside the foam tape.
- e. With the roof hatch in the proper orientation, install the roof hatch.
- f. Use twenty screws (NF # 008653) to secure the roof hatch to the roof. Apply torque of 15 in lbs. Do not overtighten. Figure 11.

 **NOTE:** Do not over-torque screws to avoid cracking the roof hatch and uneven depression of roof panel.



Figure 11: Install Screws

- g. Ensure sealant “squeeze out” is visible around the entire perimeter of the hatch when installed.
- h. Remove the excess “squeeze-out” sealant, tool the edge of the sealant and clean any excess sealant with soap and water to make a nice finished product. Figure 12.



Figure 12: Finish and Clean Edge

- i. Locate the interior ring that was set aside earlier and remove the existing foam tape.
 - j. Clean the residue off of the ring with the Sika cleaner and a soft, lint free cloth.
 - k. Once the cleaner has dried, apply new foam tape in the same location it was before.
 - l. Install the interior ring. Mount it in place with eight new screws (NF PN 54S00008).
7. Clean up all tools and debris.
 8. Give the Sika sealant ample time to cure before moving the bus. Follow manufacture's safe drive away time on the container.
 9. If required, follow the same steps for additional roof hatches.
 10. Turn the main battery disconnect switch to the "ON" position and return the bus to service.

LABOUR ESTIMATE

	Operation	Men	Hours	Labour Time M X HR
1	Remove and replace one roof hatch	1	4.0	4.0

PARTS REQUIRED

Item	Part Number	Description	Qty. per Hatch	Units	Notes
1	055702	AKTIVATOR-SIKA 205	0.01	EA	Per Hatch
2	5962588	SEAL RUBTX.125TX.38W	20	FT	Per Hatch
3	055701	ADHESIVE- WHITE SIKA 221	1	EA	Per Hatch
4	008653	SCREW SELF TPG 1/4-20 SS	20	EA	Per Hatch
5	54S00008	SCREW PH CROSS RECESS TPG. TYPE AB #10 16 X 1/2" LG.	8	EA	Per Hatch
6	6349299	FRAME LOW PROFILE #4 WHITE	1	EA	Per Hatch